

AMENDMENTS TO THE CLAIMS

1. (Currently amended) An MgB_2 compound sheath superconducting wire wherein a single-core wire member or a multi-core wire member coated by a metal having a specific electric resistance $7 \mu \Omega \text{cm}$ or below at a room temperature is assembled into a base metal member along a longitudinal direction, the base metal member having a Vickers hardness 50 or above at a room temperature and one or more longitudinal holes.

2. (Currently amended) An MgB_2 compound sheath superconducting wire wherein a single-core wire member or a multi-core wire member coated by a metal having a Vickers hardness 50 or above at a room temperature is assembled into a base metal member along a longitudinal direction, the base metal member having a specific electric resistance $7 \mu \Omega \text{cm}$ or below at a room temperature and one or more longitudinal holes.

3. (Currently amended) An MgB_2 compound sheath superconducting wire as claimed in claim 1, wherein a plurality of the single-core or multi-core wires members are assembled into the base metal member and they are twisted.

4. (Currently amended) An MgB_2 compound sheath superconducting wire wherein an MgB_2 superconductor is assembled into a base metal member having a specific electric resistance $7 \mu \Omega \text{cm}$ or below at a room temperature and a Vickers hardness 50 or above at a room temperature and one or more longitudinal holes.

5. (Original) An MgB_2 compound sheath superconducting wire as claimed in claim 1, wherein the density of the superconducting substance processed to a final product is 90% or above with respect to a theoretical density.

6. (Withdrawn) A method for manufacturing an MgB_2 compound sheath superconducting wire comprising the steps of:

arranging a junction auxiliary material on an intermediate layer between an inner circumference of hole provided on a base metal and an outer circumference of a single-core or a multi-core wire, and

applying a thermal treatment to unify the base metal and the core wire;

7. (Withdrawn) A method for manufacturing an MgB_2 compound sheath superconducting wire as claimed in claim 6, wherein the junction auxiliary material contains at least one selected from a group consisting of copper, silver, gold, palladium, aluminum, silicon, indium, tin, zinc, iron, lead, nickel, manganese, and boron.

8. (New) An MgB_2 compound sheath superconducting wire as claimed in claim 1, wherein a plurality of the single-core or multi-core wires are assembled into the base metal and they are twisted.